Targeted skills

By the end of this module, you will know how to:

- open shapefiles
- show attribute tables
- browse the map: zoom (in, out, to region), pan, …
- select features: individually, by regions, by attribute value, through spatial query
- change the order of layers
- access layers properties
- style map features (basic)
- save open layers, styling in a QGIS project

Data

Data to be used in this module can be found in the following folders:

```
data/ne_110m_admin_0_countries/
data/ne_110m_populated_places/
data/ne_110m_rivers_lake_centerlines/
```

Exercise outline & memos

1. Opening a shapefile

Option 1:

```
[In QGIS top menu]
Layer   Add Layer   Add Vector Layer
```

Option 2:

```
[In QGIS side toolbar]
Add Vector Layer
```

Hint: *function of icons will appear when hovering over it*

Check out QGIS User Guide for more information

Shapefiles to be open in this exercise are:

```
data/ne_110m_admin_0_countries/ne_110m_admin_0_countries.shp
data/ne_110m_populated_places/ne_110m_populated_places.shp
data/ne_110m_rivers_lake_centerlines/ne_110m_rivers_lake_centerlines.shp
```

Warning: *note that what we called a shapefile is actually a combination of files with the following extensions: .shx, .shp, .dbf, … When we want to open a shapefile in GIS software, we are opening the .shp one.* See wikipedia entry for shapefile.

2. Showing attribute table

A GIS layer has always two facets, representations: geographical (the map istself) and attribute table (tabular) representations.

In the attribute table, each row corresponds to a map feature (a point, a line or a polygon) and columns attributes recorded for this feature (population, type of disease, ...).

To open the attribute table:

Option 1:

```
[In QGIS top menu]
Layer   Open Attribute Table
```

Option 2:

```
[In QGIS top toolbar]
Click the 'table' icon
```

Option 3:

```
[In QGIS Layers list]
Click right on the layer of interest and select 'Open Attribute Table'
```

3. Browsing the map

Option 1:

```
[In QGIS top menu]
View   Zoom Full
  or
View   Zoom to Layer
...
```

Option 2:

```
[In QGIS top toolbar]
```

Hint: *you will find a series of buttons with magnifiers icon. Play around ...*

4. Select features

Option 1:

```
[In QGIS top menu]
View   Select   ...
```

Option 2:

```
[In QGIS top toolbar]
```

4.1 Select by attribute value

```
[In QGIS top menu]
View   Select   Select by Expression ...
```

then in [input text box], write:

```
"pop_est"  > 50000000  and click 'Select' button
```

4.2 Select by spatial query

```
Install "Spatial Query Plugin" if not already installed. If/when installed the plugin needs to be
activated (checkbox on).

Select a country, let's say "Brazil"

[In QGIS top menu]
Vector   Spatial Query   Spatial Query

[In "Select source features from" dropdown]
Choose: "ne_110m_populated_places"

[In "Where the features" dropdown]
Choose: "Within"

[In "Reference features of"]
Choose: "ne_110m_admin_0_countries" (check selected geometries checkbox)

Then click "Apply"
```

6. Accessing layer properties

```
[In Layers Panel]
Simply drag and drop layers you want to move up or down in layers stack
```

5. Changing order of layers

```
[In Layers Panel]
Click right on layer of interest   Properties
```

then, on left side of the properties window, you will find a bunch of choice/option, such as:

- General
- Style
- Labels
- ...

We will only focus on "Style" properties for now.

6. Styling map features

```
Open layer properties
Click "Style" option and play around with colours to your liking;
```

7. Saving open layers and styles as QGIS project

To save your QGIS environment/project:

```
[In QGIS top menu]
Project   Save As...
```